

MISSOURI DEPARTMENT OF CONSERVATION



JULY/AUGUST 2025

Xplor



THE
ANTS GO
MARCHING
ON AND ON AND ON ...

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Be all that you can be in the world's largest army.

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Let this mini field guide introduce you to a few finned friends.

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Pull out this poster and tape it to your wall to make your room look wild.

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As this baby box turtle knows, summer is a great time to stretch your legs, hit the sand, and get some sun. From mid-May through July, mama three-toed box turtles dig shallow holes in loose soil and lay about five eggs inside. The babies hatch about three months later.



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ON THE COVER

Carpenter Ant

STRANGE BUT TRUE

Your guide to all the
UNUSUAL, UNIQUE,
AND UNBELIEVABLE
stuff that goes on in nature

LONG-TAILED WEASELS are as nimble as ninjas and attack with lightning-fast ferocity. Although mice make up most of their menu, these tiny predators regularly bring down rabbits, which are nearly four times their size.



To reward insects for helping transfer pollen, **FLOWERS** produce sugary nectar. But not all nectar is created equal. Biologists have discovered that when some flowers feel the buzz of an approaching bee, they make their nectar sweeter than normal.

BROWN-HEADED COWBIRD moms lay their eggs in the nests of other birds, leaving them in the care of new moms and pops. Cowbird chicks usually hatch earlier, grow faster, and eat more than the foster parents' own chicks.



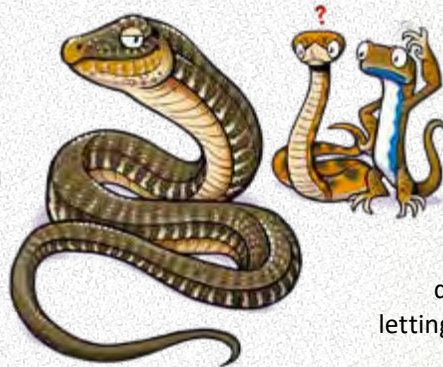
Raccoons, skunks, and opossums love to eat eggs for breakfast. To keep egg thieves guessing, **PAINTED TURTLES** often dig several "test" nests before laying their eggs in a real one.



Most **CATERPILLARS** have 12 eyes but couldn't see their own face in a mirror. The eyes, called ocelli (*oh-sell-eye*), help a caterpillar detect shade (where it's good to hide) and sun (where predators might spot them).



Goodness sake, that's no snake! It's a **SLENDER GLASS LIZARD**. This lizard lacks legs, but it has eyelids and ear holes, which snakes don't have. When attacked, a glass lizard sheds its squirmy tail. This distracts predators, letting the lizard escape.



AMERICAN BURYING BEETLES bury dead animals to feed to their babies. To keep the meat "fresh," grown-up beetles coat the corpse with goo from their mouths and backsides. *Bon appétit!*



WHAT IS IT?

DON'T KNOW? Jump to Page 21 to find out.

- 1 My wings are a bit of a question.
- 2 When open, they grab your attention.
- 3 When closed, they offer protection.
- 4 Because they help me avoid your detection.



TWO TRUTHS, ONE LIE

Which fascinating fact is actually a fib?

Answer on Page 21



Dusty hog-nosed snake

- 1 When threatened, a harmless hog-nosed snake flattens its head like a cobra. If the threat persists, the snake rolls onto its back and pretends to be dead.
- 2 After a hog-nosed snake performs its cobra act, it can take up to 30 minutes for its puffed-up head to return to normal size.
- 3 Toads secrete poison from their skin that sickens predators. Hog-nosed snakes are immune to toad toxin and happily munch the hapless hoppers.

HOW TO

USE A POCKETKNIFE SAFELY

A pocketknife is one of the most useful outdoor tools. With it, you can cut rope, slice mushrooms, filet a fish, or whittle a stick. But if you use it carelessly, you can wind up at the hospital getting stitches. Show your trusty blade — and your digits — some respect by following these simple safety tips.

WARNING!

A pocketknife isn't a toy. It's a tool. And like most tools, if you use it carelessly, it can cause serious harm. Always ask a grown-up for permission before using any knife.





OPEN YOUR KNIFE CAREFULLY

Always keep your knife folded when it's not being used. To open it, hold the handle of the knife firmly in one hand. Push the thumbnail of your other hand into the "nail nick" of the blade and carefully pull the blade out of the handle. Keep your fingers away from the sharp side of the blade when closing the knife.

KEEP THE BLADE SHARP

A dull knife is more likely to slip off of what you're cutting and slice you instead. A sharp knife should slip easily through a scrap of paper. If your knife doesn't, ask a grown-up to help you sharpen the blade on a whetstone. There are many videos on the internet to show how it's done.



KEEP YOUR KNIFE CLEAN

Wash the blade of your knife with soapy water before using it to prepare food. This way, the knife doesn't transfer bacteria and other germs to the food you're about to eat. Wipe the blade clean after each use to keep rust from forming and the knife's locking mechanism in working order.



MAINTAIN A SAFE WORKSPACE

Since a pocketknife is easy to fold shut, there's no reason to walk around with the blade out. And NEVER run with an open knife. If you're preparing food, make sure the surface on which you're cutting is stable. If you're whittling wood, make sure there's a safety zone around where you work. Before opening the knife, stretch your arms out and slowly spin in a circle. This is how big the safety zone should be. If someone walks into your safety zone, quit cutting.



PASS YOUR KNIFE SAFELY

There are two safe ways to hand your pocketknife to another person. One is to fold the blade back into the handle and then hand over the knife. The other is to leave the blade open, set it down, and let the other person pick the knife up.

CUT CAREFULLY

The key is to keep your fingers away from the sharp parts (*duh!*) and work slowly and deliberately. Wrap your fingers around the handle of the knife and grip it firmly. When chopping vegetables or fruit, tuck the fingertips of your non-knife hand under your knuckles to make a "paw." Use the paw to hold the food steady and your knuckles as a guide for the blade. When whittling, shave small chips. Always cut away from your body — and away from the hand holding the wood.



LIFE
IN THE

INFANTIRY

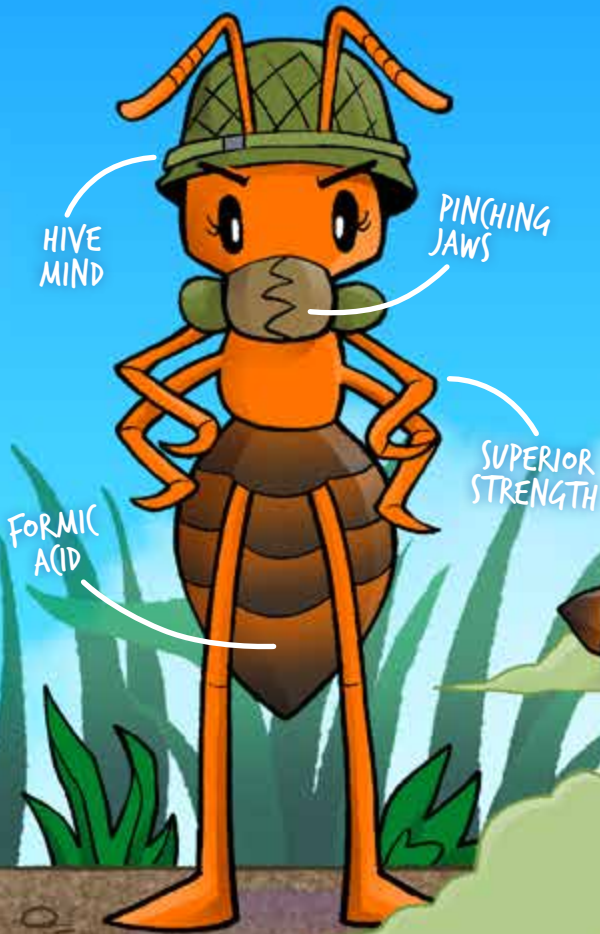
Ah-ten-HUT! I am Sergeant Sand. You will address me as drill *sergeANT*, not ma'am or miss. My mission is to train recruits to follow orders, respect superiors, and serve with honor. I demand excellence. Understood?

CHAIN OF COMMAND

In the army, everyone has a rank and a role. The queen is our top officer. She lays eggs that hatch into larvae that grow into recruits. Male ants, called drones, don't do squat. They just help make babies. Female ants, called workers, are the real heart and soul of the operation. We attend to the queen, care for larvae, gather food, dig tunnels, and defend our fort against attacks.

FORT ALLEGHENY

Ants command the largest army on Earth. There are over 20 quadrillion of us — 20,000,000,000,000,000 — and over 12,000 different kinds. You have the honor to serve as an Allegheny mound ant. We patrol pastures, prairies, and savannas and build large mounds of soil. Some can be 6 feet wide and 3 feet tall — quite an engineering feat for a rice-sized insect! Tunnels connect the mounds. This one will be your barracks.

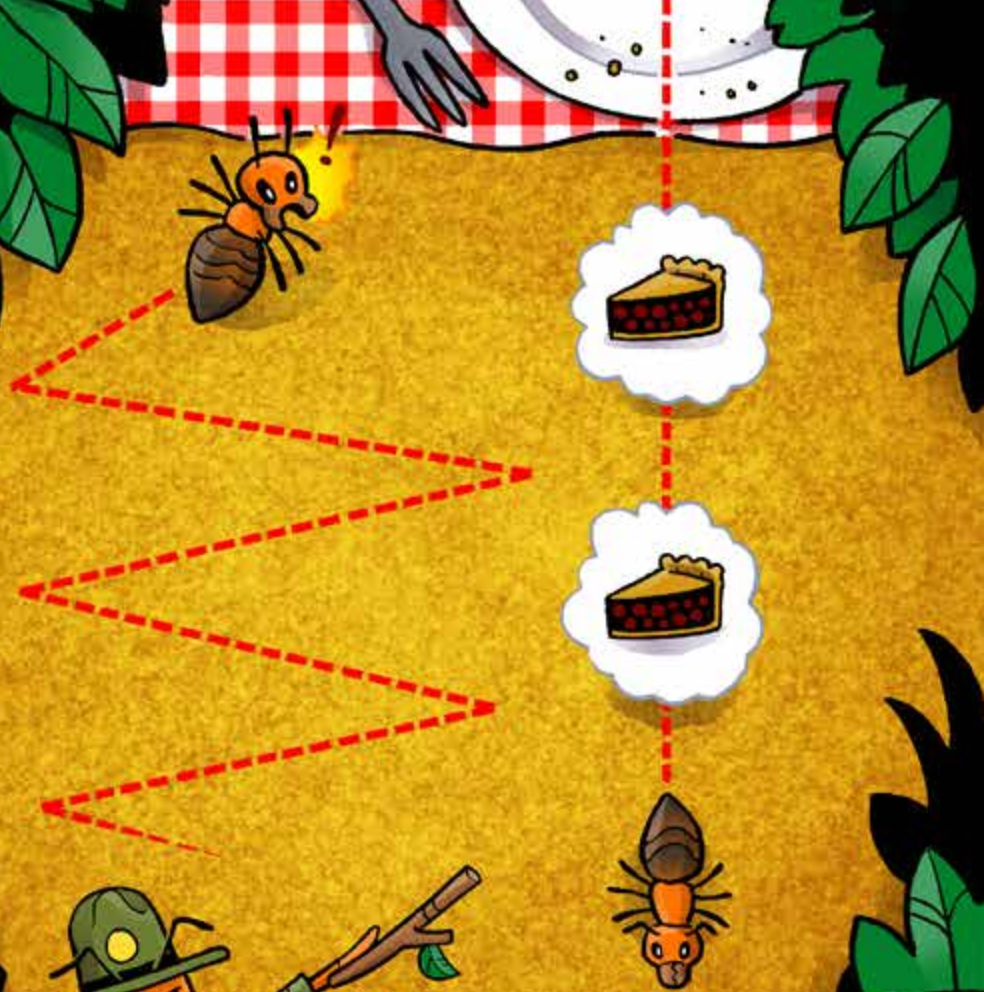


DEFEND THE FORT!

I don't bark out orders. I command troops by waving my antennae and releasing airborne chemicals called pheromones (*fair-uh-moans*). And right now, recruit, my pheromones are yelling, "We're under attack!" On my command, soldiers swarm out of the anthill. Some are large and armed with strong, sharp jaws. They bite the enemy and spray acid into the wound. It feels like being stung by a bee.

FOOD PATROL

An army marches on its stomach. We can't be battle ready if we aren't well fed. As a new recruit, I'm assigning you to an important mission: finding food. You will zigzag over every inch of terrain around our mound until you find something fit to eat. Once you do, return to base immediately, in a straight line if possible. Tap your belly on the ground as you go. This will leave a trail of pheromones — like a chemical map — for fellow troops to follow.

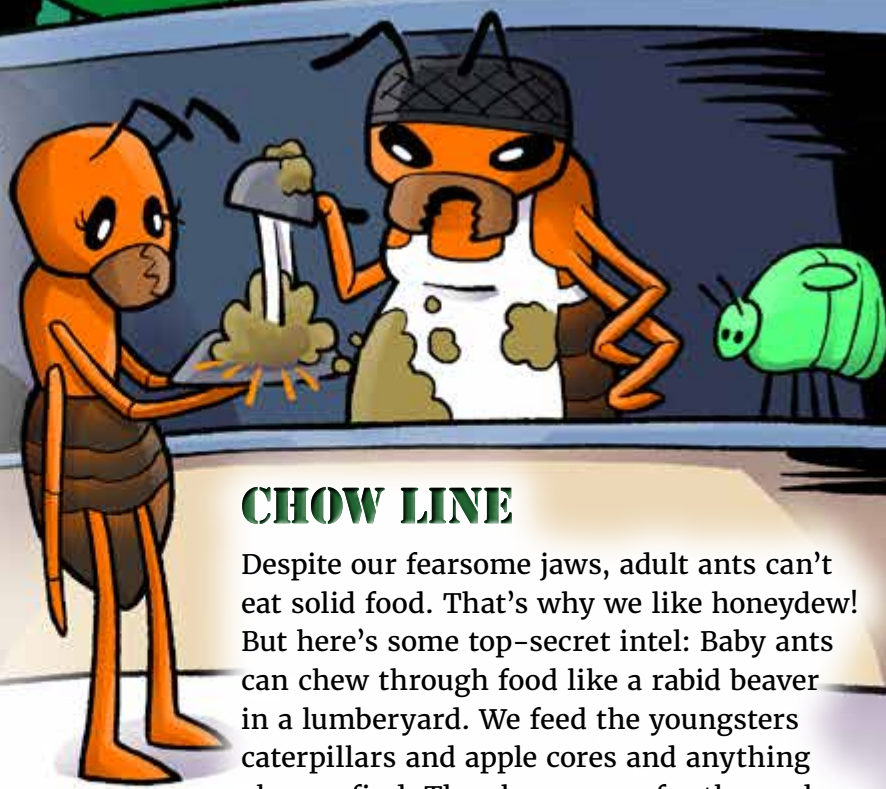


BUILDING BRIDGES

There is no "I" in team, recruit, but there sure is a "u" in unit. And there isn't an obstacle ants can't overcome when we work together as a well-oiled unit. You see a water-filled ditch. I see an opportunity to build a bridge. Bravo Company: Lock your legs to form a bridge! Charlie Company: March those eggs and food to the other side! *Hut, hut, hut!*

HELPING THE HELPLESS

An army's job is to protect the weak. Squishy aphids offer easy prey to lady beetles and spiders. Part of our mission is to stand guard over the little squishers while they slurp plant sap. We wield bitey jaws and stinging acid to beat back would-be predators. Sometimes we even move the aphids to plants that are more tender. In return, they give us honeydew, a sweet liquid that comes out of the not-so-sweet end of an aphid.



CHOW LINE

Despite our fearsome jaws, adult ants can't eat solid food. That's why we like honeydew! But here's some top-secret intel: Baby ants can chew through food like a rabid beaver in a lumberyard. We feed the youngsters caterpillars and apple cores and anything else we find. They keep some for themselves and throw up the rest to feed the troops. Now aren't you glad you joined the infANTry?

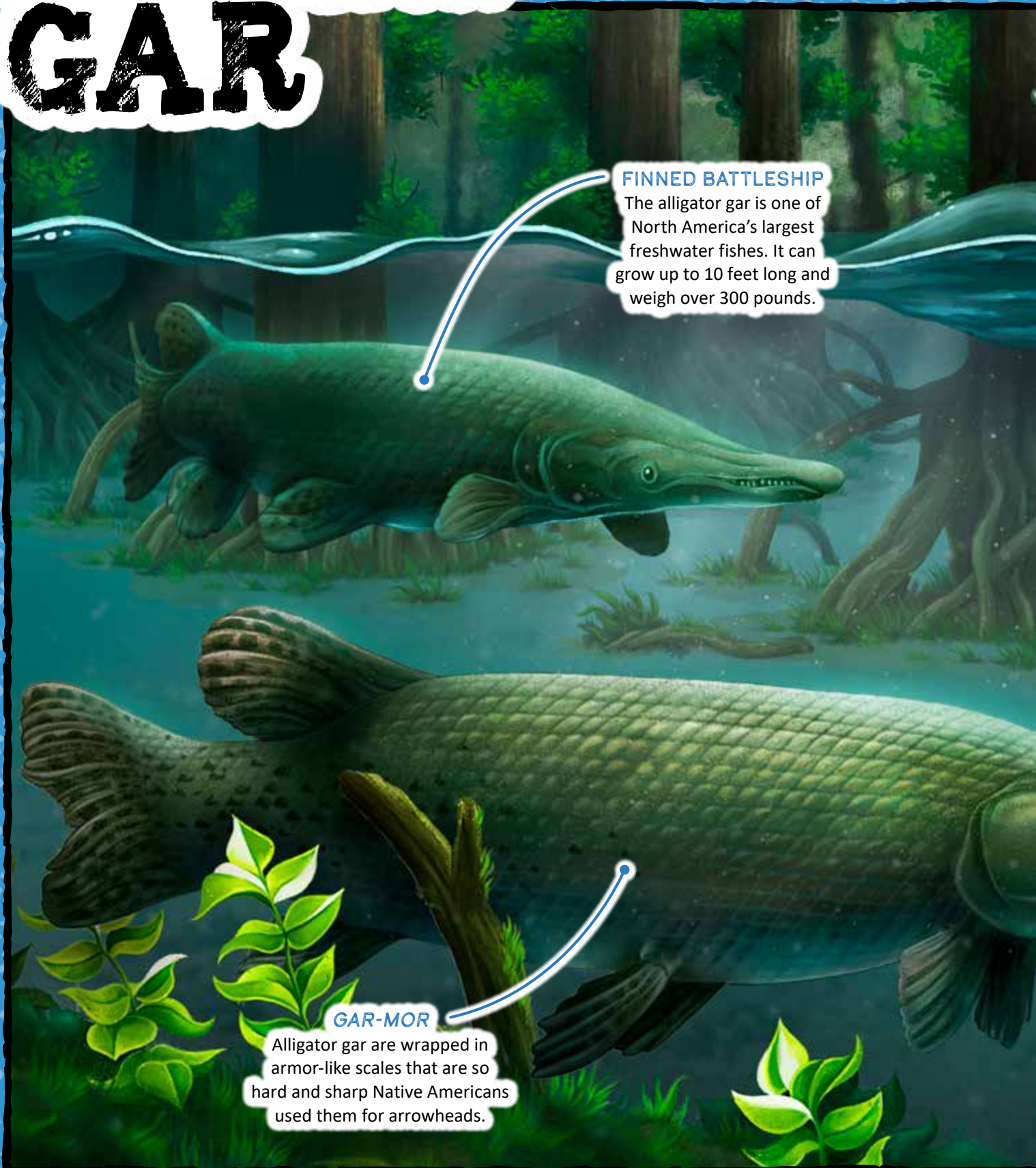
ALLIGATOR GAR

FINNED BATTLESHIP

The alligator gar is one of North America's largest freshwater fishes. It can grow up to 10 feet long and weigh over 300 pounds.

GAR-MOR

Alligator gar are wrapped in armor-like scales that are so hard and sharp Native Americans used them for arrowheads.





MOUTH BREATHER

Gar use gills to breathe water, but they also gulp air at the surface. This lets them live in swamps and sloughs that don't hold enough oxygen for other fish to survive.

ARMED TO THE TEETH

An alligator gar's top jaw is spiked with two rows of pointy teeth. When this toothy trap snaps shut, even a slippery fish can't slip out.



Show-Me Fishes

Missouri's ponds, lakes, streams, and rivers are swimming with fishes! More than 200 different kinds lurk under the water's surface, from the well-named least darter that's not much longer than your thumb to the lake sturgeon that can grow as long as a sofa and weigh more than 200 pounds.

Fish come in a variety of shapes and colors, too. An American eel is long and skinny like a snake. A paddlefish looks like its nose was replaced with a huge spoon. The rainbow darter is so colorful it was named after, well, a rainbow. And a sculpin can change the hues of its skin to blend in with the bottom of a stream.

First, Make This Field Guide



- 1 Cut out the next two pages along the dotted lines.
- 2 Fold each cutout down the middle.
- 3 Stack the cutouts so the pages are in numerical order.
- 4 Staple the cutouts together at the fold between pages 8 and 9.
- 5 Take your mini field guide along when you go fishing.



mdc.mo.gov

YOU DISCOVER FISHES



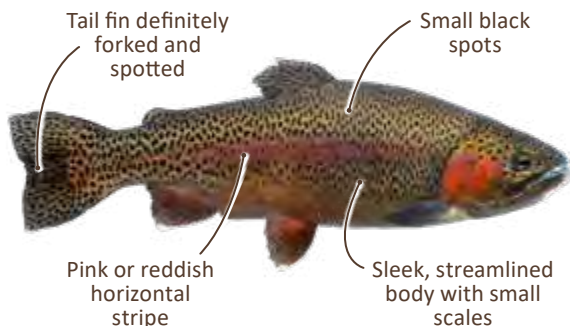
LONGEAR SUNFISH

A MINI FIELD GUIDE TO MISSOURI'S MOST POPULAR FISH

16

1

Rainbow Trout



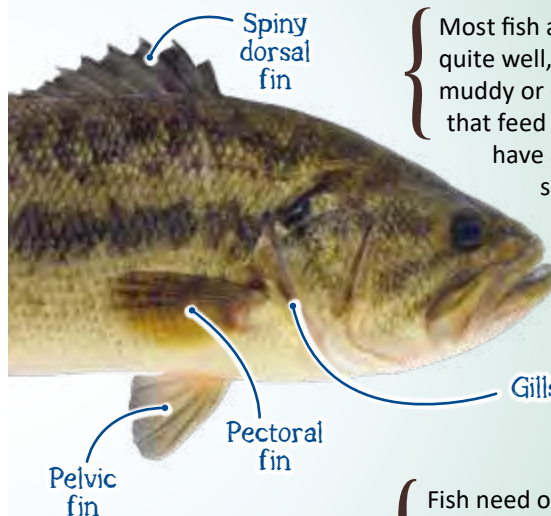
WHERE: Cold, clear streams

BEST BAIT: Flies, spinners, and dough balls

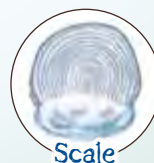
FINTASTIC FACT

Rainbow trout are native to streams in western North America. They were first brought to Missouri in 1882. Some rainbows are born in Missouri's streams, but the majority are grown in hatcheries and stocked in cool, clean streams.

Sounds travel better through water than air. Fish have bones in their heads called otoliths (*oh-toe-lithz*) that hear both sounds made in the water and on the shore.



Most fish are able to see quite well, but not in muddy or dark water. Fish that feed at night usually have a keen sense of smell to sniff out food.



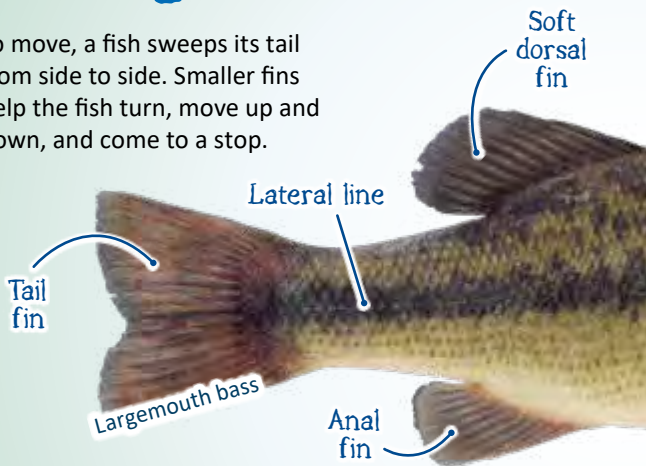
Fish need oxygen just like people, but they breathe water instead of air. When water flows over a fish's gills, these delicate organs absorb oxygen that's dissolved in the water.

14

3

WELL-BUILT FOR A Watery World

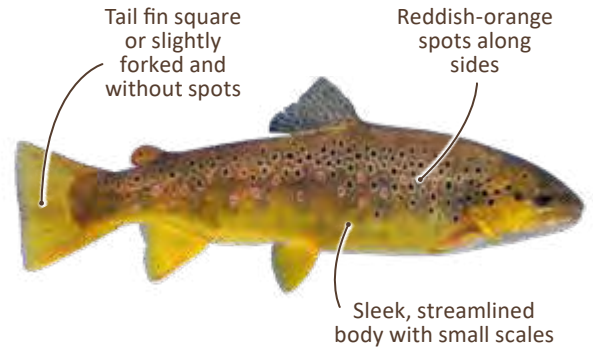
To move, a fish sweeps its tail from side to side. Smaller fins help the fish turn, move up and down, and come to a stop.



Fish have a "sixth sense." A line of nerve endings, called the lateral line, runs down each side of a fish. It detects tiny waves in the water and alerts a fish to predators or prey moving nearby.

Most fish have scales that offer protection, like a coat of armor. Some fish, like catfish, have tough skin instead. Fish are also coated with mucus, aka "slime." It helps a fish glide through water and protects a fish's skin from germs.

Brown Trout



AVERAGE SIZE: 8 to 15 inches

WHERE: Cold, clear streams

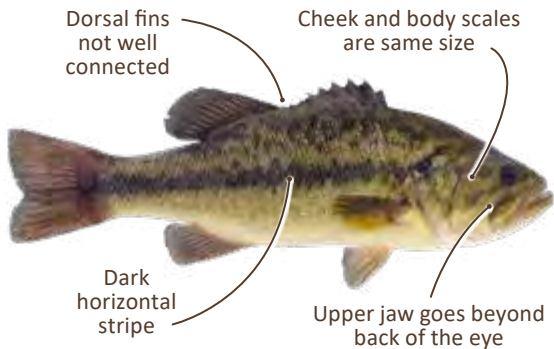
BEST BAIT: Flies, spinners, and dough balls

FINTASTIC FACT

Brown trout originally come from Europe. They were first brought to Missouri in 1890. Because anglers love to catch them, the Conservation Department grows them in hatcheries and stocks them in cold, clear streams.

15

Largemouth Bass



AVERAGE SIZE: 10 to 20 inches

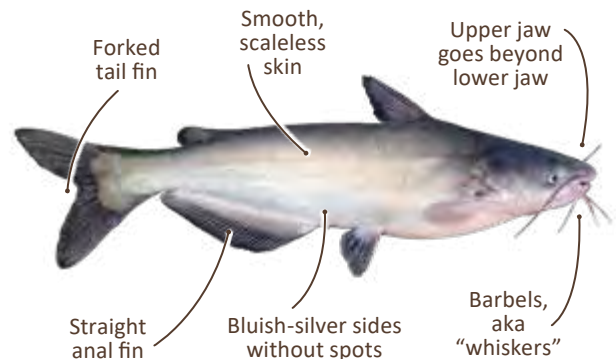
WHERE: Ponds, lakes, and warm, slow rivers

BEST BAIT: Plastic worms, spinners, and crankbaits

FINTASTIC FACT

The largemouth bass is America's most popular fish. More people toss lures at these bucket-mouthed beauties than any other freshwater fish.

Blue Catfish



AVERAGE SIZE: 20 to 44 inches

WHERE: Large lakes and big rivers

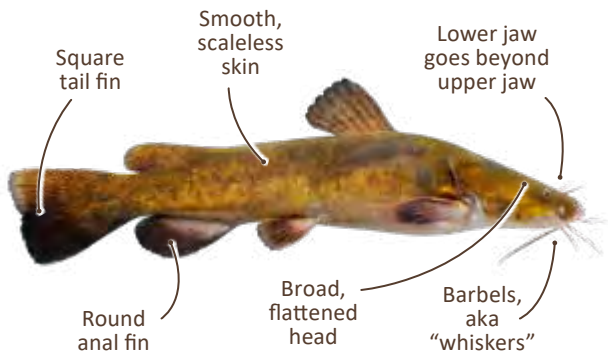
BEST BAIT: Worms, shad, and stinky baits

FINTASTIC FACT

None of Missouri's catfish can pack on pounds like a blue cat. These colossal catfish routinely crunch the scales at 40 pounds, and Missouri's state record weighed 130 pounds!

13

Flathead Catfish



AVERAGE SIZE: 15 to 45 inches

WHERE: Large lakes or slow rivers

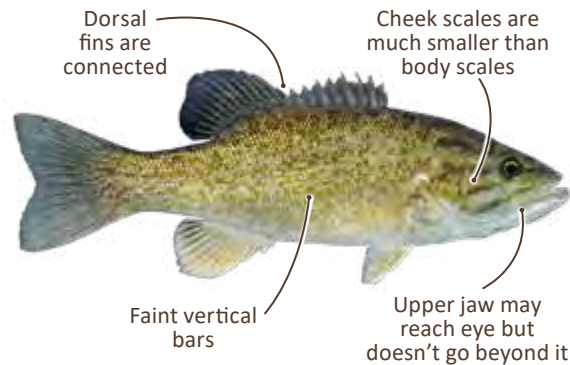
BEST BAIT: Worms, shad, and stinky baits

FINTASTIC FACT

A female flathead may lay more than 100,000 eggs each year. But it's usually males who guard the eggs and fan them with their fins to provide oxygen and keep them clean.

12

Smallmouth Bass



AVERAGE SIZE: 10 to 20 inches

WHERE: Cool, clear streams and large Ozark lakes

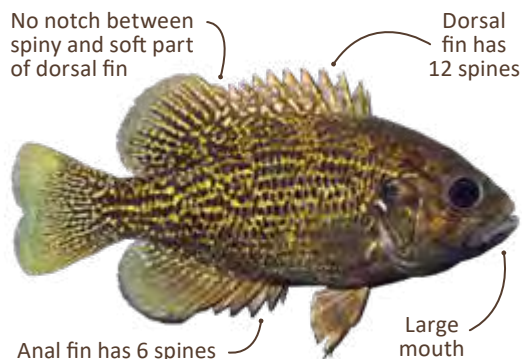
BEST BAIT: Crayfish lures, plastic tube jigs, and minnows

FINTASTIC FACT

Smallmouth bass love leftovers. They often follow turtles when the reptiles root around at the bottom of a stream. When the digging stirs up an insect or crayfish, the bass pounces!

5

Goggle-Eye



AVERAGE SIZE: 9 to 11 inches

WHERE: Streams of the northern Ozarks

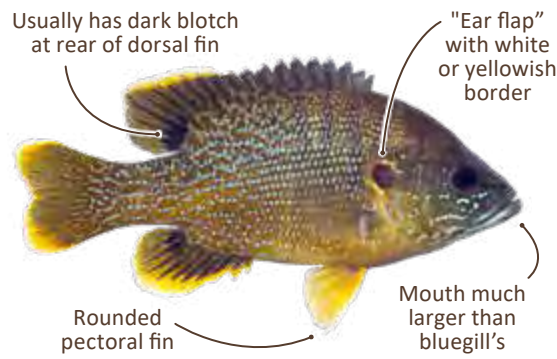
BEST BAIT: Crayfish lures, worms, and minnows

FINTASTIC FACT

What anglers call "goggle-eye" are, according to biologists, three different fish. Northern rock bass, shadow bass, and Ozark bass, aka goggle-eye, are so closely related they were once considered the same species.

10

Green Sunfish



AVERAGE SIZE: 6 to 8 inches

WHERE: Nearly any pond, lake, or stream

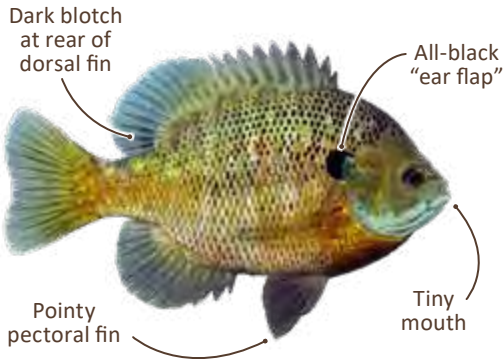
BEST BAIT: Small plastic jigs, poppers, and worms

FINTASTIC FACT

Green sunfish are the most widely distributed fish in Missouri. At least a few are found in every stream in the state that's capable of supporting fish.

7

Bluegill



AVERAGE SIZE: 6 to 10 inches

WHERE: Ponds and lakes, stream pools, and backwaters of large rivers

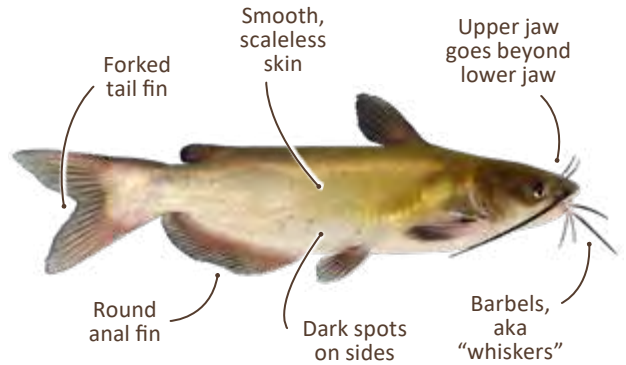
BEST BAIT: Small plastic jigs, poppers, and worms

FINTASTIC FACT

In the spring, male bluegills become very colorful and fan out saucer-shaped nests in shallow water. Some males stay less colorful. They pretend to be females and sneak onto another male's nest to try to steal his girlfriend.

6

Channel Catfish



AVERAGE SIZE: 12 to 32 inches

WHERE: Ponds, lakes, and large streams

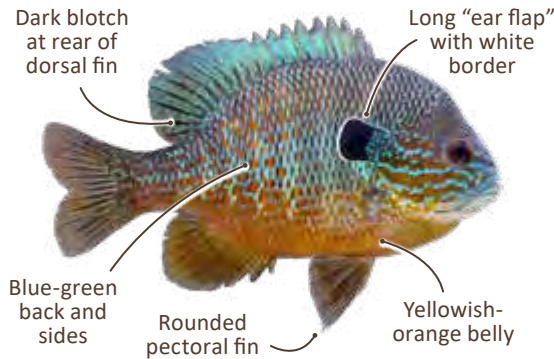
BEST BAIT: Worms, liver, and stinky baits

FINTASTIC FACT

Like most catfish, channel cats have sharp spines on their dorsal and pectoral fins that they raise like spears when threatened. When the spines pierce skin, they inject a painful, though not dangerous, venom.

11

Longear Sunfish



AVERAGE SIZE: 5 to 6 inches

WHERE: Pools of clear Ozark streams

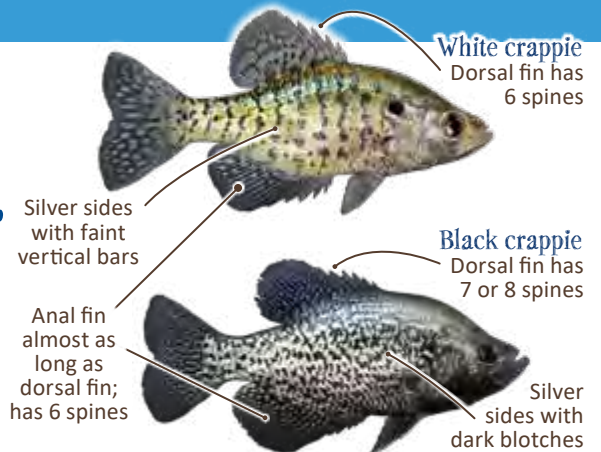
BEST BAIT: Small plastic jigs, poppers, and worms

FINTASTIC FACT

During spawning season, a male longear's chin and belly turn bright orange. To get a girlfriend, a male rushes out to meet a female and then tilts his body sideways to show off his brilliant belly.

8

Crappie



AVERAGE SIZE: 9 to 10 inches

WHERE: Open water near underwater cover in ponds and lakes

BEST BAIT: Marabou jigs, small plastic jigs, and minnows

FINTASTIC FACT

Crappie is pronounced "crop-ee," not the, uh, other way. Missouri has two species of crappie: white and black. White crappie handle murky water better than black crappie, which prefer clear water.

9

The Art of Letting Go

Sometimes, fishing rules require you to release a fish because it's the wrong size or the wrong species. And sometimes, you'd rather fish for fun than for food. To keep the fish you free safe from harm, master the art of letting go.



Take the Right Tackle

- Choose artificial lures. Fish are more likely to swallow live bait and become deeply hooked, which can damage their organs.
- Carry a pair of needle-nose pliers to remove hooks from small-mouthed fish.
- Use pliers to pinch the barbs flat on your hooks. This makes removing them easier.



Land 'Em Quickly

- Set the hook as soon as you feel a bite. This makes it less likely the fish will swallow the hook.
- Reel in your catch as quickly as you can — but don't jerk the lips off the little fella. Fighting a fish longer than necessary weakens its ability to survive.
- Keep a fish in the water when removing the hook or taking a photo. A fish's odds of survival go down the longer it's out of the water.



Handle Carefully

- Wet your hands before touching a fish. This protects its slimy skin, which guards the fish from germs.
- Be gentle. Squeezing a fish too hard can damage its organs.
- Keep your fingers away from a fish's gills and eyes. It needs those to breathe and to see!
- If your catch is hooked deeply — in its gills or stomach — it's best to simply leave the hook alone and cut the line.

Revive Tired Fish

- If the fish doesn't have enough energy to swim away, hold its tail with one hand and cradle its belly with the other.
- Slowly move the fish back and forth below the surface so water flows over its gills.
- When the fish's energy returns, release your grip so it can swim away.



XPLOR MORE

BASH THE BUSH HONEY SUCKLE

It may look pretty, but this non-native shrub is ugly for Missouri's plants and wildlife.



FLOWERS
(May to June)



LEAVES
(Oval, grow in pairs)



BERRIES
(September to October)



TRUNK
(Multiple stems with long grooves)

Bush honeysuckle grows quickly and crowds out native plants that insects, birds, and other critters rely on for food and shelter. Learn to identify its flowers, leaves, berries, and stems so you can find this harmful shrub and remove it. (Hint: It greens up earlier in the spring and stays green longer in the fall than most plants.) For honeysuckle-busting tips, visit short.mdc.mo.gov/ZCi.

Instructions

This bluebird needs help! To clear a path to its nest, draw an "X" through each honeysuckle you see.



C1



C2



B1



C3



B2



C4



B3



C5



A2



A3



A1



GET OUT!

FUN THINGS TO DO
AND GREAT PLACES
TO DISCOVER NATURE

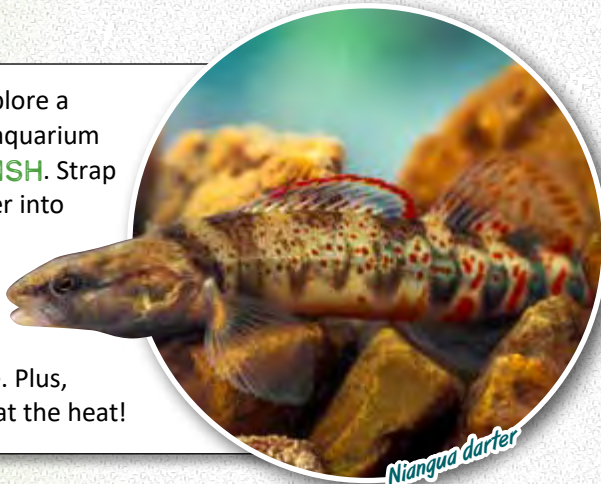


By July, most birds are busy raising babies and have little desire to sing. **RED-EYED VIREOS**, however, still find the time. The tireless singers are known to tweet 20,000 songs a day! Listen for a series of short, slurred notes, as if the vireo were asking itself a question and then answering it, over and over ... and over.

Around mid-July, **BABY FIVE-LINED SKINKS BEGIN HATCHING** out of their leathery eggs. As their name implies, the youngsters have five tan stripes lining their shiny black backs. But you're more likely to notice their electric blue tails, which fade in brightness as they grow up.



You don't have to explore a coral reef or visit an aquarium to **FIND FLASHY FISH**. Strap on a diving mask, peer into an Ozark stream, and you'll be amazed at the rainbow of minnows, darters, and sunfish you'll see. Plus, it's a great way to beat the heat!



Niangua darter

WILD BLACKBERRIES reach peak perfection in July. Arm yourself with long pants and long sleeves to protect your skin from prickly thorns and bitey bugs, then wade among the brambles to fill a bucket (or two) with sweet treats. For a yummy recipe, search for "cobbler" at mdc.mo.gov/magazines/xplor/search.



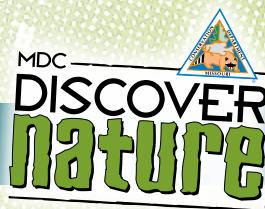
The next time you sniff a flower, a sneaky predator may be hiding right under your nose: **A CRAB SPIDER**. These harmless hunters don't weave webs to catch prey. Instead, they wait patiently on petals, relying on camouflage to stay hidden. When a fly buzzes by, the spider pounces.



CRAB SPIDER: HENRIK LARSSON/SHUTTERSTOCK



Looking for more ways to have fun outside? Find out about Discover Nature programs in your area at mdc.mo.gov/events.



WHAT IS IT?

— FROM PAGE 3 —



QUESTION MARK BUTTERFLY



This butterfly is named for the small silver “punctuation marks” on the underside of its wings. It flutters from April to November in forests, parks, and backyards. Question marks rarely feed on flowers. Instead, they slurp up nutrients from rotten fruit, dead animals, and poop. From above, a question mark’s wings blaze like orange flames. But when folded, the wings look like drab, dead leaves and make you question if you really saw a butterfly at all.

GO FIND IT!



Cut out this critter card and take it with you outside. How many of the things on the card can you find?

AMERICAN BULLFROG



LOVE BURPS

To attract a girlfriend, a male bullfrog makes a call that sounds like a deep, rumbling burp. The love burps can be heard over half a mile away.

BOY OR GIRL?

Boy bullfrogs have eardrums (the discs behind each eye) that are larger than their eyes. Girls have eardrums that are about the same size as their eyes.

EGGS-TRAORDINARY!

Mama bullfrogs can lay over 20,000 eggs. The eggs bob on the water’s surface like globs of tapioca pudding.

PUDGY POLLYWOGS

Bullfrog tadpoles eat algae and grow quite chubby. It takes about a year for them to turn into frogs.

BIG MOUTHS

Adult bullfrogs eat whatever they can cram into their cavernous mouths, including crayfish, fish, small snakes, rodents, and even other frogs.

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FREE TO MISSOURI HOUSEHOLDS

GO FIND IT! 

Missouri's most water-loving frog can be found in nearly any pond, river, or marsh throughout the state. For more on this croaking critter, hop over to mdc.mo.gov/field-guide.

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